5 WORK SKILLS DESIGN & TECHNOLOGY WILL GIVE YOU

PROBLEM SOLVING

In school: The reason we design things is to solve problems. It's at the heart of everything you'll do in your design and technology lessons. You'll learn how to come up with innovative solutions to the problems you identify.

METHODICAL THINKING

In school: You'll learn about the design process and all the steps involved. This includes carrying out research to define the need for a product, creating a design proposal and a prototype. You need to think methodically to ensure you produce user-centred designs.

CREATIVITY

In school: To innovate you have to be creative. It's an important part of the design process and it's something you'll be encouraged to do during your studies. You have to be creative with existing designs, as well as to come up with new ideas.

IT

In school: You'll be using digital tools throughout the design process. You'll also learn how to work with some of the IT tools used in the design industry. This includes computer-aided design (CAD). You'll also learn about computer-aided manufacture (CAM) and virtual modelling.

TEAMWORK

In school: Many of the projects you work on at school will be in small groups. You'll learn how to discuss ideas and find the best ways to solve a design problem. Then you'll work together to create a design and/or prototype.

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Sources: For source data please request the information by emailing data@successatschool.org

WHERE CAN DESIGN & TECHNOLOGY TAKE YOU?

ADVERTISING & MARKETING

Almost 200,000 people work in Advertising & Marketing in the UK. **Jobs increased by a third between 2011 and 2016!**

Career paths: xxx

ART & DESIGN

Over half a million people work as artists, designers, performers, musicians and craftspeople. More than half of artists in the UK have a degree – compared with a quarter of the whole population.

Career paths: xxx

CONSTRUCTION

With almost 300,000 business trading in construction, this **sector accounts for 7% of all employment in the UK**. That's 2.3 million jobs![4]

Career paths: xxx

ENGINEERING

The proportion of young engineers has dropped over the last decade. This means there will be **high demand for younger workers** in the years to come!

Career paths: xxx

IT & THE INTERNET

People with qualifications in Information Technology have **one of the highest rates of employment in the UK.**

Career paths: xxx

MANUFACTURING

The manufacturing sector employs around 3 million people and **accounts for 9% of employment in the UK.** That's a lot of jobs!

Career paths: xxx

SCIENCE & RESEARCH

Between 2016 and 2023, jobs in science and research will grow at twice the rate of other industries, creating 142,000 new jobs. **1 in every 6 jobs will be in science and research.**

Career paths: xxx

WANT MORE CAREERS ADVICE?

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Data sources: [1]https://www.engineeringuk.com/media/1356/enguk_report_2017_synopsis.pdf; [2]https://www.hesa.ac.uk/news/11-01-2018/sfr247-higher-education-student-statistics/subjects (Fig.13); [3]No of workers: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employmentbyindustryemp13 (May 2018), No of new rail jobs: https://successatschool.org/advicedetails/947/careers-in-rail (YSP); [4]No of workers: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/employmentbyindustryemp13 - May 2018, No of businesses: https://www.statista.com/topics/3797/construction-industry-in-the-uk/; [5]New jobs: http://ec.europa.eu/social/BlobServlet?docId=14107&langId=en (UK 2011 roadmap references here), No of workers: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/, [6]https://www.edfenergy.com/sites/default/files/jobs-of-the-future.pdf (p.4) employmentandemployeetypes/datasets/employmentbyindustryemp13 (May 2018)

Careers in Design and Technology

Design and technology builds on the skills and knowledge you have already learnt. It leverages increasingly sophisticated resources, including dedicated teaching environments, manufacturing equipment and specialist teaching. As you progress through this phase, you may be given the opportunity to focus on specific aspects of the subject such as product design, food technology, engineering, systems and control, electronics, textiles and graphics. However, at its core, is creativity and imagination. You learn to design and make products that solve genuine, relevant problems within different contexts whilst considering your own and others' needs, wants and values. To do this effectively, you will acquire a broad range of subject knowledge and draw on additional disciplines such as mathematics, science, engineering, computing and art.

Jobs directly related to Design and Technology include:

- CAD technician
- Clothing/textile technologist
- Colour technologist
- Exhibition designer
- Furniture designer
- Interior and spatial designer
- Product designer

Jobs where Design and Technology would be really useful include:

- Advertising art director
- Automotive engineer
- Furniture conservator/restorer
- Graphic designer
- Materials engineer
- Procurement manager
- Product manager
- Production designer, theatre/television/film
- Stylist

Typical employers

You can find employment in both the private and public sector. Private sector work could include manufactured products for the domestic and industrial market. Working in the public sector may involve designing interactive facilities, such as public information points and equipment used by services such as the police, fire and ambulance.

Employers include:

- industrial and domestic product manufacturers
- car manufacturers
- point-of-sale designers
- retailers.

Self-employment, or employment within a design-based consultancy, is also possible.

Skills for your CV

A degree in product design or industrial design develops your creative design skills and gives you the technical ability you need to use production methods and materials creatively. It also equips you with other skills that are valued by many employers, such as:

- presentation skills
- communication skills
- the ability to work to deadlines
- commercial and entrepreneurial skills
- problem-solving skills
- the ability to use your initiative and work independently
- teamworking skills
- visual and spatial awareness
- general and specialist IT skills, such as computer-aided design (CAD).

Studying design and technology at university – topics you may cover

- typography
- principles of visual communication
- design for online and print
- illustration
- photography
- basic moving image (including animation)
- graphic design theory (the study of the cultural, historical and contemporary contexts of graphic design).
- design media (producing 2D and 3D drawings manually or with relevant software)
- materials (and their applications, properties and limitations)
- design communication theory
- the manufacturing process.
- reflection, planning and presentation
- design process to product
- making contact with the industry
- design communication
- objects and experiences
- materials and processes
- critical analysis
- product CAD
- typographical skills
- manufacturing technology and material culture